CLAIMS

Having thus described the invention, it is claimed:

1. Apparatus for removing powder overspray from a powder spray gun assembly used in a powder spray application system, comprising:

at least one cleaning device that can be positioned with respect to an exterior surface of a spray gun to remove powder from the spray gun;

said at least one cleaning device being in fluid communication with a source of negative pressure.

2. The apparatus of claim 1 wherein said cleaning device comprises a nozzle that sucks powder off of said exterior surface.

3. The apparatus of claim 1 comprising contact bodies that impact said exterior surface to assist in removing powder overspray there from.

4. The apparatus of claim 3 wherein said contact bodies comprise lightweight objects that are collected by said at least one cleaning device.

5. The apparatus of claim 3 wherein said contact bodies comprise wiping elements.

6. The apparatus of claim 5 wherein said wiping elements comprise brushes.

7. The apparatus of claim 5 wherein said wiping elements are rotatable.

8. Apparatus for removing powder overspray from a powder spray gun assembly used in a powder spray application system, comprising:

at least one cleaning device positioned in contact with an exterior surface of a spray gun to remove powder from the spray gun as the spray gun translates along an axis by brushing or wiping powder there from.

9. The apparatus of claim 8 comprising a negative pressure source associated with said cleaning device to capture powder removed from said exterior surface.

10. The apparatus of claim 8 wherein said cleaning device comprises a rotatable brush-like element.

11. Apparatus for removing powder overspray from a powder spray gun assembly used in a powder spray application system, comprising:

at least one cleaning agent positioned in contact with an exterior surface of a spray gun to remove powder from the spray gun; said cleaning agent comprising a cryogenic fluid.

12. The apparatus of claim 11 wherein said cryogenic fluid comprises liquid CO_2.

13. The apparatus of claim 11 comprising at least one nozzle for spraying said cryogenic fluid at said exterior surface.

14. Apparatus for removing powder overspray from a powder spray gun assembly used in a powder spray application system, comprising:

at least one cleaning agent positioned in contact with an exterior surface of a spray gun to remove powder from the spray gun; said cleaning agent comprising charged particles.

15. The apparatus of claim 14 comprising a high voltage electrode positioned near said exterior surface to direct charged particles towards said exterior surface.

16. Apparatus for removing or preventing powder overspray on an exterior surface of a powder spray gun, comprising:

a powder spray gun having an external housing that supports spray gun components therein;

said external housing comprising porous material that permits air to pass therethrough; and

a pressurized air source in fluid communication with said external housing to direct air from within said housing outward through said porous material.

17. The apparatus of claim 16 wherein said porous material comprises porous polyethylene

18. Apparatus for removing powder overspray on an exterior surface of a powder spray gun, comprising:

a powder spray gun having an external housing having that supports spray gun components therein; said external housing having an exterior surface;

said external housing comprising flexible material that expands with pressurized air; and

a pressurized air source in fluid communication with said flexible material to knock powder from said exterior surface.

19. The apparatus of claim 18 wherein said external housing comprises a flexible bladder that forms said exterior surface.

20. The apparatus of claim 18 wherein said pressurized air source produces pulsed air.

21. A method for removing powder overspray from a powder spray gun, comprising the steps of:

producing a negative pressure;

introducing said negative pressure proximate an exterior surface of a spray gun to remove powder from an exterior surface thereof.

22. The method of claim 21 comprising the step of applying an abrasive force to said exterior surface while applying said negative pressure.

23. A method for removing powder overspray from a powder spray gun, comprising the steps of:

contacting an exterior surface of a powder spray gun with a cleaning device during translational movement of the spray gun.

24. The method of claim 23 comprising the step of rotating said cleaning device.

25. A method for removing powder overspray from a powder spray gun, comprising the steps of:

applying a cryogenic fluid to an exterior surface of a powder spray gun.

26. A method for removing powder overspray from a powder spray gun, comprising the steps of:

applying charged particles to an exterior surface of a powder spray gun.

27. The method of claim 26 comprising the step of positioning a high voltage electrode near said exterior surface.

28. A method for removing powder overspray from a powder spray gun, comprising the steps of:

producing positive pressurized air;

applying said pressurized air from within a spray gun housing and through a housing wall.

29. The method of claim 28 wherein said housing wall comprises a porous material.

30. A method for removing powder overspray from a powder spray gun, comprising the steps of:

producing positive pressurized air and supplying said pressurized air within a spray gun housing; and

applying said pressurized air from within a spray gun housing against a flexible member associated with a housing wall to remove powder on an external surface thereof.